

5. On Two new Species of the African Genus *Microchaetus* belonging to the Collection of Oligochaeta in the Museum of Christiania. By FRANK E. BEDDARD, M.A., F.R.S., Prosector to the Society.

[Received February 1, 1907.]

(Text-figures 85 & 86.)

Dr. Robert Collett, the well-known chief official of the Christiania Museum, was so good as to entrust me, some little time since, with the collection of Oligochaeta belonging to that Museum for study and description. In examining the collection I found three specimens, representing two species, of the Ethiopian genus *Microchaetus** which I believe to be new to science, and of which I beg to lay the following descriptions before the Society.

MICROCHÆTUS COLLETTI, sp. n.

I have the pleasure of dedicating this obviously new species to Dr. Collett. The material consists of but one specimen, which is entire, but considerably softened. It measures about 170 mm. in length by 7 mm. in breadth after the clitellum; the anterior region of the body is wider. The colour is grey-brown, yellow on the clitellum.

The *setæ* have the usual paired arrangement found in this genus, and commence upon the second segment of the body. The *setæ* are smaller upon the anterior segments and considerably larger in the clitellar region, where they are quite twice the length. The larger *setæ* are ornamented. Some of the anterior segments consist of two rings.

The *clitellum* (text-fig. 85) is very sharply marked off by its colour and by the greater thickness of the body-wall in this region. It commences with the xivth and ends with the xxivth segment. The position of the clitellum is not anomalous for the genus, and the specimen permits of no doubt upon the matter. The clitellum is perhaps best described as "saddle-shaped"; but, as a matter of fact, the clitellar epithelium has also invaded the ventral surface. There is, however, a diminution in thickness indicated by an overhanging of the body-wall just ventralwards of the lateral *setæ*. This arrangement is interfered with in the region of the genital papillæ by those structures, as will be seen by the accompanying figure (text-fig. 85).

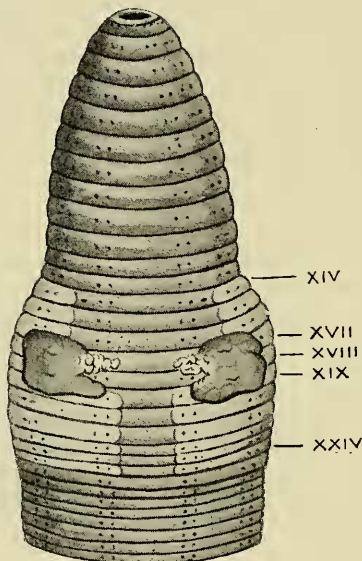
The *nephridiopores* are obvious and in front of the lateral pair of *setæ*.

The *oviducal pores* are very conspicuous upon the xivth segment. Each lies between and in the same line with the ventral and dorsal *setæ*.

* In addition to the species known up to the end of last century (see Michaelsen, Oligochaeta in 'Das Tierreich'), *M. griseus* has been subsequently described (see Michaelsen, MT. Mus. Hamburg, xix, 1904).

The *genital papillæ* (see text-fig. 85) are large and conspicuous; they occupy the xviith, xviiiith, and xixth segments. They are quadrangular in shape, with rounded angles, and each is continued by a narrow ridge towards the middle ventral line. I traced the sperm-ducts in the interior of the body as far as the segments occupied by the genital papillæ, in connection with which I presume that they open. But I am unable to fix more precisely the point of opening.

Text-fig. 85.

*Microchaetus colletti.*

I have not found it altogether easy, in view of the condition of the specimen and my unwillingness to injure it, as it is a type, to ascertain the position of certain of the internal organs. Assuming that the single pair of sperm-sacs is in the xth segment, the strongly marked *gizzard* lies in segment vii. This segment is followed by two very *thick septa*, which thus separate segments vii./viii. and viii./ix. The *dorsal vessel* is double in parts, and in segment ix. each half is much dilated, and a heart-like structure is formed precisely like that which I first described in *Microchaetus microchaetus**, and which also occurs in other species. The last pair of lateral contractile hearts lies in segment xi. The *calciferous glands* are in segment ix.

The *spermathecae*, which are, as is the case with other species of this genus, minute in size, open on to the boundary-line of

* Trans. Zool. Soc. xii. p. 63.

segments xi./xii. and xii./xiii. There are either three or four on each side of the nerve-cord in each segment scattered between the ventral region of the segment and the dorsal mid-line.

Copulatory glands are rather numerous in this species. There are three pairs anteriorly, which lie respectively in segments x., xi., and xii. Each gland is double, as is commonly the case, being composed of two sausage-shaped glands uniting to form a common duct. They lie to the inside of the sperm-duct, which is almost or quite in contact with them as it passes back to the external pore. In addition to these three smaller pairs of glands there is a single much larger pair lying two or three segments behind the clitellum, and occupying a similar position in the body. Each of these glands is also double; but each tubular half is longer and is coiled once upon itself. There are no conspicuous bundles of genital setæ associated with any of these copulatory glands.

The locality of the species is "Zululand."

MICROCHÆTUS ZULUENSIS, sp. n.

Two fragments contained in the same tube and from the same locality as the species just described clearly belong to the same genus, but as plainly constitute another species of that genus hitherto undescribed. Both fragments include the entire head and body for a long way behind the clitellum. I do not give exact measurements; the diameter of the anterior part of the body is 12 mm. or so. The worms thus belong to a larger species than *Microchætus colletti*.

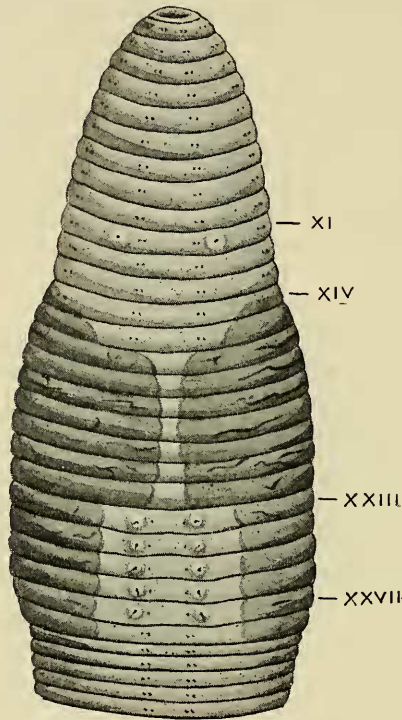
One of the specimens (text-fig. 86) is more fully mature than the other, and there is a difference in the number of the genital papillæ which is not attributable to immaturity. I am thus able to give a better account of external characters. But as the worms are much softened my examination of the internal anatomy has led to less satisfactory results. Nevertheless, I have been able to make out certain anatomical facts which are of importance in the discrimination of species.

The setæ are so minute and difficult to see upon many segments that I have found it impossible to map the regions of the body by their aid only. Assuming, however, that the male pores are upon the border-line of segments xiv./xv., a very usual position for them to occupy in this genus, and that the gizzard is in segment vii., which is also the case with other species, I arrive at the following determination of the position of the clitellum and of other organs.

In the fully mature individual the *clitellum*, recognisable on the xivth segment, is completely developed on the xvth, and extends to the end of the xxviiiith. It is saddle-shaped, a bare ventral area being left. In addition to the clitellum, segments xvi.-xxii. possess on either side a longitudinal band distinct from the clitellum, though of the same appearance in general, coupled with slight dissimilarity in colour, which is plainly the *tubercula*

pubertatis. This is confirmed by the fact that in the second immature example without a clitellum the tubercula pubertatis were nevertheless quite plain, though apparently occupying a segment less.

Text-fig. 86.

*Microchaetus zuluensis*.

The *copulatory papillae* (text-fig. 86) with their setae are very obvious and very numerous in this species. In both specimens there are two series of these papillae, one anterior to the clitellum and one on some of the posterior segments of the clitellum. In the fully mature individual with the completely developed clitellum there is a single pair of these structures on segment xi., a papilla of the pair being situated a little to the dorsal side of each ventral pair of setae. These (the ventral) setae are also present on the xith segment. These anterior papillae are considerably larger than those of the posterior series. The latter are in all five pairs situated on segments xxiii.-xxvii. inclusive, thus immediately continuing on the tubercula pubertatis. In the immature individual there were the same papillae upon the xith segment; but in

addition to these there was a smaller pair upon the xiiith segment, more ventrally placed, and in fact corresponding in position to the posterior series. These latter papillæ in the present specimen are fewer than in the adult, but they commence upon the same segment, *i. e.* the xxiiird. There are four upon the right side of the body and only two upon the left.

The *gizzard* is distinctly contained in two segments, which are the viith and viiith; the greater part of it, however, lies in segment vii. The *mesenteries* separating segments vi./ix. are thick. The rather small *calciferous glands* are in segment ix.; the intestine begins suddenly in segment xi. The *dorsal blood-vessel* is dilated in segment ix. I imagine that this species is one of those which only possess one set of testes, funnels, &c. For the *sperm-sacs and reservoirs* consist of one pair in the ixth segment attached to the posterior wall of that segment and a pair in the xth attached to its anterior wall, *i. e.* the same septum as that which bears the sperm-sacs. The two sacs of each side of the body seem to communicate, and I take the anterior pair to be the sperm-sacs and the posterior pair to contain the funnels.

I was quite unable to find any spermathecae. I am unwilling, however, to assert that these organs are absent. If they happened to contain no sperm their minute size and the softened condition of the worm would render it at least very difficult to detect them. The only other species, as it appears, in which no spermathecae have been detected is Dr. Michaelsen's recently described *M. griseus**. But as this latter species is holandrous it cannot be confused with *M. zuluensis*, than which it is also a good deal smaller.

March 19, 1907.

DR. HENRY WOODWARD, F.R.S., Vice-President, in the Chair.

The Secretary read the following report on the additions that had been made to the Society's Menagerie in February 1907:—

The registered additions to the Society's Menagerie during the month of February were 76 in number. Of these 27 were acquired by presentation and 10 by purchase, 36 were received on deposit, 1 by exchange, and 2 were born in the Gardens. The total number of departures during the same period, by death and removals, was 188.

Among the additions special attention may be directed to:—

A Long-tailed Goral (*Nemorhædus caudatus*), from Korea, new to the Collection, presented by Mr. C. F. G. Billbrough on Feb. 5th.

A Harpy Eagle (*Thrasaëtus harpyia*) from South America, purchased on Feb. 8th.

Mr. Herbert F. Standing read a paper, illustrated by lantern-

* *Loc. cit.* (on p. 277).

slides and large series of photographs and specimens, on recently discovered subfossil Prosimiæ from Madagascar, in which he discussed their affinities with extant Lemurs and with the higher Primates. The remains were obtained in the muddy bed of a swamp formed by the blocking-up of the river Mazy by a lava-flow, at from a few inches to 3 or 4 feet below the surface. They consisted of a large number of skulls and limb-bones of Lemurs and Lemur-like animals. This great amount of material enabled the author to corroborate the view, previously put forward by Dr. Forsyth Major, that the extinct Lemurs of Madagascar were, in many respects, intermediate between existing Lemurs and Monkeys, and to express his belief that the New World Monkeys and the Lemuridæ, as well as the Malagasy Indrisinæ, had a common origin. He also stated his opinion that, in view of the recent additions to our knowledge of the Prosimiæ and of what the present collection revealed with regard to their close relationship to the Apes, it was not possible to separate the Primates, as hitherto, into the two suborders Lemuroidea and Anthroipoidea.

This paper will be printed entire in the 'Transactions.'

The following papers were read:—

1. Descriptions of some New Species of Animal Parasites.

By L. W. SAMBON, M.D., F.Z.S.*

[Received March 19, 1907.]

WELLCOMIA MITCHELLI Sambon.

Abstr. P. Z. S. 1907, p. 15 (March 26).

Habitat. Small intestine of *Pedetes cafer*.

Only females found, 12–15 mm. long and about 1 mm. broad. Characterised by the presence of a conical ovipositor 2–3 mm. long, placed ventrally on the anterior third of the body, 2–3·5 mm. from the cephalic extremity, and by a spirally twisted tail, 2–3 mm. long, terminating in a fine point. Body semitransparent. Head tapering anteriorly. Mouth trilabiate; œsophagus long and terminating in a spherical bulb. Anus open ventrally at 3–4 mm. from tail-end. Eggs smooth, oblong, asymmetrical, and measuring 60–65 μ by 28–32 μ .

SPARGANUM BAXTERI Sambon.

Abstr. P. Z. S. 1907, p. 16 (March 26).

Habitat. Connective tissue of Man.

Long, flat, unsegmented body, 15 cm. long and 1·5 mm. broad,

* [The complete account of the new species described in this communication appears here; but since the names and preliminary diagnoses were published in the 'Abstract,' the species are distinguished by the name being underlined.—EDITOR.]